Contents of Vol. 34

Vol. 34, No. 1

Curing-oligomers movement with wall sliding in a round channel
D.A. Vaganov, P.V. Zhirkov (Chernogolovka, U.S.S.R.) and A.Ya. Malkin (Moscow, U.S.S.R.) 1

A numerical study of extrudate swell in very dilute polymer solutions represented by the Oldroyd-B model
M.B. Bush (Nedlands, Western Australia, Australia) 15

An experimental verification of flow-induced anisotropy of concentrated suspensions
G. Astarita, A. D'Amore, L. Nicolais and A. Pompo (Naples, Italy) 25

Some asymptotic results for planar extension
C.J.S. Petrie (Newcastle upon Tyne, U.K.) 37

The optical and mechanical response of flexible polymer solutions to extensional flow
C.A. Cathey and G.G. Fuller (Stanford, CA, U.S.A.) 63

Dynamics of colloidal particles in sheared, non-Newtonian fluids
S.J. Johnson, A.J. Salem and G.G. Fuller (Stanford, CA, U.S.A.) 89

Instructions to Authors 123
Calendar 127

Vol. 34, No. 2

Flow of non-Newtonian fluids in a pipe
F.T. Pinho and J.H. Whitelaw (London, U.K.) 129

Influence of upstream instabilities and wall slip on melt fracture and sharkskin phenomena during silicones extrusion through orifice dies
J.M. Piau, N. El Kissi and B. Tremblay (Grenoble, France) 145

A discussion of shear-thickening in bead–spring models
A.J. Kishbaugh and A.J. McHugh (Urbana, IL, U.S.A.) 181

Linear theory of gravity waves on a Maxwell fluid
A. Saasen (Stavanger, Norway) and P.A. Tyvand (Ås, Norway) 207

The numerical simulation of an Oldroyd liquid draining down a vertical surface
S.V. Pennington, N.D. Waters and E.W. Williams (Liverpool, U.K.) 221

Short Communications

Limitation on the use of the retarded motion expansion
O. Hassager (Lyngby, Denmark), R.C. Armstrong (Cambridge, MA, U.S.A.) and R.B. Bird (Madison, WI, U.S.A.) 241

A viscous line vortex in an imposed axisymmetric straining flow of an upper-convected Maxwell fluid
R.R. Lagnado and E.P. Ascoli (Canoga Park, CA, U.S.A.) 247

Book review 255
Calendar 259

Vol. 34, No. 3

On the convergence of the streamline-upwind mixed finite element
M.J. Crochet, V. Delvaux and J.M. Marchal (Louvain-la-Neuve, Belgium) 261

Three-dimensional finite-element method for extrudate swells of a Maxwell fluid
T. Shiojima (Chiba, Japan) and Y. Shimazaki (Kanagawa, Japan) 269

The influence of pre-shearing on the elongational behaviour of dilute polymer and surfactant solutions
K. Vissmann (Dortmund, F.R.G.) and H.-W. Bewersdorff (Zürich, Switzerland) 289

High-Deborah-number flows of dilute polymer solutions
O.G. Harlen, J.M. Rallison and M.D. Chilcott (Cambridge, U.K.) 319

Steady shear viscosity measurements of viscoelastic fluids with the falling needle viscometer
N.A. Park (Norristown, PA, U.S.A.), Y.I. Cho (Philadelphia, PA, U.S.A.) and T.F. Irvine, Jr., (Stony Brook, NY, U.S.A.) 351

Relaxational phenomena and anisotropy in lyotropic polymeric liquid crystals
P. Moldenaers and J. Mewis (Leuven, Belgium) 359

Flow of thermoplastics in an annular die under orthogonal oscillations
A.I. Isayev, C.M. Wong and X. Zeng (Akron, OH, U.S.A.) 375

Announcements 399
Calendar 401
Author Index of Vol. 34 403
Contents of Vol. 34 405